IN THE CLAIMS:

Please **AMEND** claims 1-23 as follows.

Please **ADD** claims 24-35 as follows.

1. (Currently Amended) A ~~transmission method in a base transceiver station of a cellular telecommunication system, the base transceiver station applying antenna hopping between at least two antenna elements, the~~ method, comprising:

transmitting a carrier carrying a first signal and a second signal, wherein at least a portion of the first signal ~~being~~ is subjected to a measurement for adjusting receive characteristics of a mobile station for a reception of at least a portion of the second signal; and

applying antenna hopping to the carrier such that the at least a portion of the first signal and the at least a portion of the second signal are transmitted during an interval between two consecutive antenna hops between at least two antenna elements.

2. (Currently Amended) A method according to claim 1, wherein the transmitting ~~step~~ further comprises transmitting the carrier carrying the first signal, wherein at least a portion of which is subjected to a power measurement for adjusting receive gain of the mobile station for the reception of the at least a portion of the second signal.

3. (Currently Amended) A method according to claim 1, further comprising:

timing an antenna hop in a carrier transmission with respect to a signal transition from the first signal to the second signal such that there is a predetermined time gap between the signal transition and the antenna hop between the at least two antenna elements; and

performing the antenna hop based on the timing of the antenna hop.

4. (Currently Amended) A method according to claim 1, wherein the transmitting ~~step~~ further comprises transmitting the carrier carrying the first signal and the second signal consecutively.

5. (Currently Amended) A method according to claim 1, wherein the applying ~~step~~ further comprises applying the antenna hopping to the carrier according to a predetermined antenna hopping sequence comprising at least one antenna hop interval between two consecutive antenna hops, wherein the predetermined antenna hopping sequence defining at least one of ~~the following:~~antenna weighting applied to the at least two antenna elements during an antenna hop interval,~~;~~ and a timing of the antenna hops.

6. (Currently Amended) A method according to claim 5, wherein the applying ~~step~~ further comprises applying the antenna hopping to the carrier according to the predetermined antenna hopping sequence optimized based on at least one of an

~~criterion selected from a group comprising:~~effect of the predetermined antenna hopping sequence on a performance of a traffic channel carried by the carrier,~~;~~ an effect of the predetermined antenna hopping sequence on a performance of a common control channel carried by the carrier,~~;~~ an effect of the predetermined antenna hopping sequence on a performance of a broadcast channel carried by the carrier,~~;~~ an effect of the predetermined antenna hopping sequence on a performance of a dedicated control channel carried by the carrier,~~;~~ feedback information from the mobile station,~~;~~ ~~and~~ or an effect of the predetermined antenna hopping sequence on the capacity of a cellular telecommunication system.

7. (Currently Amended) A method according to claim 5, wherein the applying ~~step~~ further comprises applying the antenna hopping to the carrier according to an antenna hopping sequence which maximizes the de-correlation of at least one channel carried by the carrier within at least one interleaving period.

8. (Currently Amended) A method according to claim 1, wherein the transmitting ~~step~~ further comprises transmitting the carrier carrying the second signal transferring a channel selected from ~~a group comprising~~ at least one of~~:~~ a broadcast channel~~;~~ ~~and~~ or a common control channel.

9. (Currently Amended) A method according to claim 1, wherein the transmitting ~~step~~ further comprises transmitting the carrier carrying a third signal transferring a channel selected from ~~a group comprising~~ at least one of~~:~~ a traffic channel~~;~~ ~~and~~ or a dedicated control channel.

10. (Currently Amended) A method according to claim 1, further comprising:

applying frequency hopping to a transmission of a base station by using the carrier.

11. (Currently Amended) A method according to claim 1, wherein the transmitting ~~step~~ further comprises transmitting the carrier carrying the first signal ~~including~~ comprising a first time slot and the second signal ~~including~~ comprising a second time slot,

wherein at least a portion of the first time slot ~~being~~ is subjected to a measurement for adjusting the receive characteristics of the mobile station for the reception of at least a portion of the second time slot; and

wherein the applying ~~step~~ further comprises applying the antenna hopping to the carrier such that the at least a portion of the first time slot and the at least a portion of the second time slot are transmitted during an interval between the two consecutive antenna hops.

12. (Currently Amended) An apparatus, ~~base transceiver station of a cellular telecommunication system, the base transceiver station~~ comprising:

a signal ~~generating unit for generating~~ generator configured to generate a first signal and a second signal, wherein the first signal ~~being~~ is subjected to a measurement for adjusting receive characteristics of a mobile station for a reception of at least a portion of the second signal; and

~~a transmitter unit connected to the signal generating unit for generating a carrier carrying the first signal and the second signal;~~

~~at least two antenna elements operationally connected to the transmitter unit for transmitting the carrier carrying the first signal and the second signal; and~~

an antenna hop generator ~~operationally connected to the transmitter unit for applying~~configured to apply at least two antenna hops to ~~the~~ a carrier carrying the first and second signals to the mobile station such that the at least a portion of the first signal and the at least a portion of the second signal are transmitted during an interval between two consecutive antenna hops between at least two antenna elements.

13. (Currently Amended) An apparatus ~~base transceiver station~~ according to claim 12, wherein the signal ~~generating unit~~generator is further configured to generate the first signal, wherein at least a portion of which is subjected to a power measurement for adjusting receive gain of the mobile station for the reception of the at least a portion of the second signal.

14. (Currently Amended) An apparatus ~~base transceiver station~~ according to claim 12, wherein the antenna hop generator is further configured to time an antenna hop in a carrier transmission with respect to a signal transition from the first signal to the second signal such that there is a predetermined time gap between the signal transition and the antenna hop between the at least two antenna elements; and

wherein the antenna hop generator is further configured to perform the antenna hop based on a timing of the antenna hop.

15. (Currently Amended) An apparatus ~~base transceiver station~~ according to claim ~~12~~35, wherein the transmitter ~~unit~~ is further configured to generate the carrier carrying the first signal and the second signal consecutively.

16. (Currently Amended) An apparatus ~~base transceiver station~~ according to claim 12, further comprising:

an antenna hop controller ~~connected to the antenna hop generator, the antenna hop controller for providing~~configured to provide a predetermined antenna hopping sequence comprising an antenna hop interval between two consecutive antenna hops,

wherein the predetermined antenna hopping sequence ~~defining~~ is configured to define at least one of ~~the following:~~an antenna weighting applied to the at least two antenna elements during the antenna hop interval~~,~~ and a timing of the antenna hops; and wherein the antenna hop generator is further configured to apply the at least two antenna hops to the carrier according to the predetermined antenna hopping sequence.

17. (Currently Amended) An apparatus ~~base transceiver station~~ according to claim 16, wherein the antenna hop controller is further configured to provide an antenna hopping sequence which maximizes a de-correlation of at least one channel carried by the carrier within at least one interleaving period.

18. (Currently Amended) An apparatus ~~base transceiver station~~ according to claim 16, wherein the antenna hop controller is further configured to provide an antenna hopping sequence optimized based on at least one of ~~criterion selected from a group comprising:~~an effect of the predetermined antenna hopping sequence on a performance of a traffic channel carried by the carrier,~~;~~ an effect of the predetermined antenna hopping sequence on a performance of a common control channel carried by the carrier,~~;~~ an effect of the predetermined antenna hopping sequence on a performance of a broadcast channel carried by the carrier,~~;~~ an effect of the predetermined antenna hopping sequence on a performance of a dedicated control channel carried by the carrier,~~;~~ an effect of the predetermined antenna hopping sequence on a capacity of a cellular telecommunication system,~~;~~ ~~and~~ or feedback information from the mobile station.

19. (Currently Amended) An apparatus ~~base transceiver station~~ according to claim 12, wherein the signal ~~generating unit~~generator is further configured to generate the second signal transferring a channel selected from ~~a group comprising~~ at least one of~~:~~ a broadcast channel~~;~~ ~~and~~ or a common control channel.

20. (Currently Amended) An apparatus ~~base transceiver station~~ according to claim ~~12~~35, wherein the signal ~~generating unit~~generator is further configured to generate a third signal transferring a channel selected from ~~a group comprising~~ at least one of~~:~~ a traffic channel~~,~~ and a dedicated control channel,~~;~~ and

wherein the transmitter ~~unit~~ is further configured to generate the carrier carrying the third signal.

21. (Currently Amended) An apparatus ~~base transceiver station~~ according to claim ~~12~~35, wherein the transmitter ~~unit~~ is further configured to generate a plurality of carriers,~~;~~ and

wherein the transmitter ~~unit~~ is further configured to apply frequency hopping to a transmission of the base station by using the carrier.

22. (Currently Amended) An apparatus ~~base transceiver station~~ according to claim 12, wherein the signal ~~generating unit~~generator is further configured to generate the

first signal ~~including~~ comprising a first time slot and the second signal comprising ~~including~~ a second time slot,

wherein at least a portion of the first time slot ~~being~~ is subjected to a measurement for adjusting the receive characteristics of the mobile station for the reception of at least a portion of the second time slot,~~;~~ and

wherein the antenna hop generator is further configured to apply antenna hopping to the carrier such that the at least a portion of the first time slot and the at least a portion of the second time slot are transmitted during an interval between the two consecutive antenna hops.

23. (Currently Amended) An apparatus, ~~base transceiver station of a telecommunication system, the base transceiver station~~ comprising:

transmitting means for transmitting a carrier carrying a first signal and a second signal, wherein at least a portion of the first signal ~~being~~ is subjected to a measurement for adjusting receive characteristics of a mobile station for a reception of at least a portion of the second signal; and

applying means for applying antenna hopping to the carrier such that the at least a portion of the first signal and the at least a portion of the second signal are transmitted during an interval between two consecutive antenna hops between at least two antenna elements.

24. (New) A computer readable storage medium encoded with instructions that, when executed by a computer, perform a process comprising:

transmitting a carrier configured to carry a first signal and a second signal, wherein at least a portion of the first signal is subjected to a measurement for adjusting receive characteristics of a mobile station for a reception of at least a portion of the second signal; and

applying antenna hopping to the carrier such that the at least a portion of the first signal and the at least a portion of the second signal are transmitted during an interval between two consecutive antenna hops between at least two antenna elements.

25. (New) The computer readable storage medium according to claim 24, wherein the transmitting further comprises transmitting the carrier comprising the first signal, wherein at least a portion of which is subjected to a power measurement for adjusting receive gain of the mobile station for the reception of the at least a portion of the second signal.

26. (New) The computer readable storage medium as claimed in claim 24, wherein the instructions, when executed by the computer, further perform the process comprising:

timing an antenna hop in a carrier transmission with respect to a signal transition from the first signal to the second signal such that there is a predetermined time gap between the signal transition and the antenna hop between the at least two antenna elements; and

performing the antenna hop based on the timing of the antenna hop.

27. (New) The computer readable storage medium according to claim 24, wherein the transmitting further comprises transmitting the carrier configured to carry the first signal and the second signal consecutively.

28. (New) The computer readable storage medium according to claim 24, wherein the applying further comprises applying the antenna hopping to the carrier according to a predetermined antenna hopping sequence comprising at least one antenna hop interval between two consecutive antenna hops, wherein the predetermined antenna hopping sequence is configured to define at least one of antenna weighting applied to the at least two antenna elements during an antenna hop interval, or a timing of the antenna hops.

29. (New) The computer readable storage medium according to claim 28, wherein the applying further comprises applying the antenna hopping to the carrier according to the predetermined antenna hopping sequence optimized based on at least one of an effect of the predetermined antenna hopping sequence on a performance of a traffic channel carried by the carrier, an effect of the predetermine antenna hopping

sequence on a performance of a common control channel carried by the carrier, an effect of the predetermined antenna hopping sequence on a performance of a broadcast channel carried by the carrier, an effect of the predetermined antenna hopping sequence on a performance of a dedicated control channel carried by the carrier, feedback information from the mobile station, or an effect of the predetermined antenna hopping sequence on the capacity of a cellular telecommunication system.

30. (New) The computer readable storage medium according to claim 28, wherein the applying further comprises applying the antenna hopping to the carrier according to an antenna hopping sequence which maximizes the de-correlation of at least one channel carried by the carrier within at least one interleaving period.

31. (New) The computer readable storage medium according to claim 24, wherein the transmitting further comprises transmitting the carrier carrying the second signal transferring a channel selected from at least one of a broadcast channel or a common control channel.

32. (New) The computer readable storage medium according to claim 24, wherein the transmitting further comprises transmitting the carrier carrying a third signal transferring a channel selected from at least one of a traffic channel or a dedicated control channel.

33. (New) The computer readable storage medium as claimed in claim 24, wherein the instructions, when executed by the computer, further perform the process comprising:

applying frequency hopping to a transmission of a base station by using the carrier.

34. (New) The computer readable storage medium according to claim 24, wherein the transmitting further comprises transmitting the carrier carrying the first signal comprising a first time slot and the second signal comprising a second time slot,

wherein at least a portion of the first time slot is subjected to a measurement for adjusting the receive characteristics of the mobile station for the reception of at least a portion of the second time slot; and

wherein the applying further comprises applying the antenna hopping to the carrier such that the at least a portion of the first time slot and the at least a portion of the second time slot are transmitted during an interval between the two consecutive antenna hops.

35. (New) The apparatus of claim 12, further comprising:

a transmitter configured to generate the ~~a~~ carrier carrying the first signal and the second signal; and

at least two antenna elements configured to transmit the carrier carrying the first signal and the second signal.